Margules Audio

Amplifier U280SC 25 anivesary

Congratulations!

The Margules U280-SC 25th Anniversary Stereo Tube Amplifier combines the superior sound of vacuum tubes with new and innovative technology. The results are clearly apparent in its quick detailed dynamics and ultra-smooth transient response. Unusual versatility and unprecedented reliability provide an exceptional performance upgrade to an already remarkable amplifier.

Class-A Output Stage & Active-Servo Bias

Vacuum tube power amps with class-A outputs are rare. Class-A operation causes the tubes to run quite hot, and increases the chance of saturating the output transformer.
Margules has resolved this problem by incorporating an Active Servo Bias (patent pending). The bias actively tracks the input signal, permitting full class-A output, without overdriving the tubes.
Active Servo Bias also sets DC bias and AC drive levels, assuring optimum electrical and sonic performance. Throughout the useful life of the output tubes, no drive or bias adjustments are ever needed. New tubes can be installed without test equipment or time-consuming setup. Active Servo Bias also makes it possible to use a variety of output tubes. The 6550, KT88, KT99, KT100, KT 120, KT150 can be interchanged without modification.
Active Servo Bias is implemented with semiconductors, which are designed for the aerospace industry, assuring long, trouble-free operation.

The New U280-SC 25th Anniversary Stereo Tube Amplifier includes a new and improved differential output, as well, further reducing the THD and transient distortion.

Ultralinear / Triode & Strapped Operation

Audiophiles have argued the merits of Ultralinear v Triode operation for 50 years. Triode operation provides lower distortion, at the price of reduced power output.
The U280-SC resolves this predicament by providing switchable Triode / Ultralinear operation. For those listening sessions where you prefer a more soft sound, you simply switch to Triode Mode. And when more power, dynamics, detail and punch is needed, you simply switch to Ultralinear Mode. .
Unlike most vacuum tube amplifiers, the U280-SC's outputs can be strapped, for twice the output. Start with a single amp, then add a second U280-SC for increased power—or to convert to triode operation at the same power level.
Separate gain controls for each channel make precise balancing easy. This simplifies the setup of bi-amped systems, as well.

Regulated Shunt Power Supply

The input stages of the new U280-SC 25th anniversary include a special SHUNT power supply for these critical circuits. Shunt technology provides a dramatic improvement in Q damping, the key factor in regulating voltage for those stages.
Good regulation reduces the loss of signal integrity that occurs when the signal itself shifts the amplifier’s operating point. Each channel uses separate regulators that further improve the U280-SC’s already excellent imaging.
Damping is critical to overall performance including smoother transient response and overall staging. Further improvements in quickness, dynamics and the overall life-like listening experience result.
Our new Power Supply is virtually indestructible due to specially designed regulation technology that protects the amp from major tube failures.

Zero Feedback

The U280-SC does not use negative feedback as do most tube amplifiers. Negative feedback results in a loss of detail and sound richness. Margules has developed the BEFS (Back Electromotive Force Sensor), which changes the amplifier's output impedance per

the load requirement. BEFS permits the amplifier to drive difficult speaker loads with exceptional efficiency, dynamics and extended controlled bass.
The U280-SC's innovative design is complemented with a fine new finish, new silver coated epoxy pc boards, military grade potentiometers, precision metal-film resistors and audio grade interstage capacitors.

SETUP
The amplifier should be unplugged from the wall outlet.

Choose the proper output impedance accordingly to your speaker; both channels should be the same.

2 ohms from 1 to 2 ohms load
4 ohms from 4 to 8 ohms load
8 ohms from 8 up ohms load

In Mono mode always use both channels of the amplifiers in ultralinear or triode mode in the same output impedance range.
The recommended settings are the following:

2 Ohms should
4 Ohms from 2 to 4 ohms load
8 Ohms from 4 to up ohms load

If used as Stereo or Mono the Triode/Ultralinear mode should be the same in both channels.

Connect the speakers to the output binding posts, red to red black to black the input signal of the amplifier to the preamplifier.

If you are not using a preamplifier set the level controls to minimum otherwise full clockwise.

Check the power switch in the back of the amp to be off.

Connect the amplifier to the AC outlet of the wall, check that all connections are OK and flip the switch to on.

Wait until the meter reads 43 ma

The panel meter is the actual current passing through the right front output tube. When overpasses the 100ma, you are overdriving the tubes; around 120ma, coincides with the maximum power.

It is not important if you overdrive the tube in short periods, if you do it continuously, it will shorten the life expectancy of the tubes. To change the tubes just unplug the A.C. power line cord, pull out the old ones, and insert the new tubes; the active bias will balance them.

We recommend matched pair output tubes, but this is not indispensable.

Do not substitute with other type the two 12AU7 tubes in the back of the amplifier. You will unbalance the circuit and will raise the distortion.

Break-in
The break in period is about 150 hours of music reproduction.

Tube life expectancy
For optimal performance we recommend to change the set off tubes every two years, although they should last a much longer period.

Precaution and care
This product is intended to be plugged directly to the power supply line of your house.

Although we have taken all the precautions to make your equipment completely safe and to comply with the safety standards, we recommend to unplug it from the wall outlet if your are not going to use it for an extended period of time.
Keep the equipment in a well-ventilated area and far away from materials that can be ignited.
Do not expose to rain or direct sunlight.
Do not open. High voltage no serviceable parts inside.
The voltage supply should be ± 15% of the line nominal voltage specified in the product.
To clean, use a soft lightly humid cloth.
Never take the tubes out while the amplifier is plugged!
It is important to substitute the tubes with the correct numbers.

Troubleshooting

Doesn't turn on

Look for:
- Proper connection to the wall outlet.
-The rear switch to be in on position.
-The U280 SC has a **3-minute delay** pre warm up time. Wait until the current meter display reaches 35ma.
- The circuit breaker in the rear of the amplifier is probably activated, if you see the button ejected push it in.

One channel doesn't sound

Look for:
-The gain controls to be in the correct position.
-The connections to be properly set.
- A protection fuse can be blown, check them and if is the case replace it.
Warning HIGH VOLTAGE inside.
Be certain to have the amplifier unplugged from the power line.
If the fuse blows again one tube is in short or damage, replace it.

The amplifier does not sound properly.

Look for:
-The proper voltages supply.
-The amplifier output impedance selector to be in the proper position.
- Check for further advises in the operation section of this manual.

Noise in your system.

Check for ground loops in the system.
- No more than one physical ground should have the system.

Advises

Always mount your amplifier in a firm platform avoiding external vibrations from loudspeakers.

You can change the tonal characteristics by placing your amplifier in different type of supports like footer, spikes, etc.

To minimize unwanted noise in the system:
Avoid excessive length in the interconnect cables.
Avoid having AC line cables and strong electromagnetic fields near the signal ones.

Because you have a servo-controlled bias and the BEFS always use the best interconnects, AC power line and loudspeakers cables that you can get.

We recommend having the gain potentiometers at maximum level; In our opinion you will achieve the best sounding qualities.

Characteristics

Frequency response	10-50KHZ
Power	
Ultralinear	80W/channel
Triode	40W/channel
Mono (Ultralinear).	120W.
Mono (triode).	60W.
Noise	1.2M.V.
Maximum total harmonic distortion	0.2%
Weight	32KG.
Power consumption	
Standby	170W.
Max. output	600W.

MARGULES

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User manual